AMERICAN VETERINARY REVIEW,

JUNE, 1893.

EDITORIAL.

FIRST VETERINARY CONGRESS OF AMERICA.—The officers of the various committees of the United States Veterinary Medical Association, we are happy to say, appear to be fully alive to the importance of the duty and responsibility devolving upon them in superintending the necessary preparations for the next meeting of the Association, or the First Veterinary Congress of America. This was illustrated at the meeting held in New York on the 20th of May. Several of the gentlemen of the International Committee and of the Comitia Minora were present, including Dr. Clement, the vice-president, the indefatigable secretary, Dr. Hoskins, and Drs. Robertson, L. McLean, Huidekoper, Pearson, R. McLean and Liautard, all having come prepared to report upon the work already accomplished, as well as to hear suggestions bearing on the organization of the work of the congress.

Reports were made by the Committee on Invitations on the proposal to make foreign veterinarians honorary members, and from those on Veterinary Education and on Tuberculosis. Some of these, it is true, were only in a crude form under the routine of "reporting progress," but were, nevertheless, accompanied by remarks from the heads of the various committees, which proved that they had been neither negligent or indifferent to the matters placed in their charge.

Communications were read by the Secretary from Dr. Williams, President of the Association, suggesting some valuable ideas and proposals of measures for making the sessions of the congress more attractive, not only to the profession, but also to the public. A letter from Dr. C. P. Lyman, Chairman of the Committee on Prizes, was also read, announcing, as has already been done in last month's REVIEW, the arrangements made by the Committee. The appointment of Dr. Niles, of Iowa, as a member of the Committee on Education in place of Dr. Stalker, of Iowa, who is unable to serve, was announced. Various other subjects were also discussed, and the committees were urgently recommended to continue activity in their work, as the time is rapidly growing short, and details yet remain to be completed before the definite programme of the work in Chicago can be satisfactorily arranged and announced. The meeting adjourned subject to the call of the Secretary.

Our colleagues in the profession will be glad to hear of the efforts made by the officers of the Association, and it is to be hoped that their example will stimulate the energy of all who take any interest in the success of this great and unusual occasion, which is one not likely to occur soon again. The veterinarians of the East must not be allowed to be the only ones to perform their share of the necessary labor, but those of the West have also much to do, and we trust that we shall be able at an early date to chronicle their activity and its results in forwarding the arrangements which that portion of the committee which reside in the West has undertaken, in order to render the coming congress all that can be desired as an enterprise resulting in great and lasting benefits to the profession, and to the public at large. We have received the following circulars from the Secretary:

To the Members of the United States Veterinary Medical Association and the Profession in General:

I have the pleasure of announcing that Prof. Olof Schwartkopff, of St. Paul, Minnesota, will offer a paper at the International Veterinary Congress in Chicago in October next, entitled "Comparative Psychology of our Domestic Animals." A paper, the outcome of studies, investigations and close attention given by the

author, and his recognized ability as a writer and teacher, makes the promise of this paper one of exceptional merit.

The reprint and papers of the last two meetings of the United States Veterinary Medical Association at Washington and Boston will be ready for delivery about the 20th of May. All those who are not members of the Association, but who are desirous of receiving the same, may obtain them through the Secretary at the cost of their publication.

The new application blanks are now ready, and may be obtained from any of the assistant State Secretaries, or from the office of the general Secretary upon application. All applications for membership must be filed in the office of the Secretary on or before the 1st of October next, in order to be insured consideration at the Chicago meeting.

By order of the President,

W. L. WILLIAMS,
Lafayette, Ind.

W. HORACE HOSKINS, *Sec'y*,
12 South 37th St., Phila., Pa.

To the Members of the United States Veterinary Medical Association:

The Comitia Minora of this Association will convene in Chicago on October 16th for the discussion of all preliminary business and the consideration of all applicants for membership.

The officers of the Association will arrange for headquarters at one of the leading hotels, where they may be reached at certain hours by all those who desire information or assistance of any kind.

The Illinois Association will tender to the members of the Congress an evening's entertainment on the lakeside, with a lunch, music, etc.

The members of the Local Committee of Arrangements in Chicago will place at the disposal of the members of the Congress one or more of their members during our stay in Chicago to guide them to any place of amusement and point of interest in the city or the surroundings.

The resignation of Dr. M. Stalker on the Committee of Veterinary Education has been accepted, and Dr. Niles, of Ames, Iowa, has been appointed in his place.

The officers have accepted a paper from Dr. T. D. Hinebauch, of Fargo, North Dakota, entitled "Millet Disease of Horses."

The local arrangements are rapidly being completed, and the Secretary will be glad to furnish information at any time to any members of the profession by forwarding their requests to his office.

By direction of the President,

W. L. WILLIAMS,
Lafayette, Ind.

W. HORACE HOSKINS, *Sec'y*,
12 South 37th St., Phila., Pa.

ORIGINAL ARTICLES.

HINTS.

By A. H. Champlin.

(Address delivered at Commencement Exercises of Chicago Veterinary College).

Nature always speaks in hints. She never tells the whole of her story. This is true whether we accept her teachings as divine expressions and revelations of a Supreme intelligence and will power, or as manifestations of a ceaseless activity evolved from circumstance and chance, which are really other terms for designating law and condition.

In the evolution of her problems facts become fiction, and fictions, facts. Conjecture is the parent of both joy and despair.

Adhesion is the universal law of love. The crystal whose atoms are held in embrace by the force of cohesion typifies the cosmic structure of the universe; but the reflections of love from the diamond are as perplexing and tantalizing as they are dazzling. They illumine the eye, and, for the moment, fill the soul with ecstasy; but all efforts to grasp them are as futile as the strivings of the swallows to catch the dancing sunbeams on the waters. So, too, apprehension of universal truth must always fall short of comprehension.

The unfolding of the leaf for light and sustenance, the circulation of sap through the stems of the tree, the search of the roots for moisture in the soil, in short, all functional activity in the vegetable kingdom prefigure the tendency toward processes of nutrition and secretion manifested in the protoplasm and all other types and classifications of animal life; but the primordial impulse never offers us anything more than a suggestion of the law of similitudes.

The perfume of the crushed flower at our feet, the shrinking of the mimosa, the vibrations of color and heat, the clinging of the jelly fish to a rock, hint at the unfolding of a sense; but no one can tell where consciousness begins or where consciousness ends.

Time and space reproduce and remodify the modulations of environment. The caroling of the birds in woods, fields and meadows is a continuation of the refrain excited by the play of the wind in the tree-tops, and the rippling of the brooks; and all of which are reparaphrased and re-emphasized in the harp of Æolus and the grander orchestrations of man. The wail of a Rachel, and the piteous outcries of a Job, and the moanings of a wounded soldier are a reflex of the minor key running through the throes of all existence.

The ingenuity and skill with which the beaver, with his trowel, plans aud builds his lodges, reproduce themselves in the construction by men, of the pyramids, and an auditorium.

All substances, all matters, all thoughts, all intelligence, all sentiments, all superstitions, myths, growths, songs, all sciences, arts, precedents, heroisms, messiahships, all and every experience is illustrative of what is accomplished through the conservation and correlation of the forces in nature. Reproductions and re-embodiments whose trends are from the incomprehensible to the illimitable! They are also the hints of what determines the degrees of development in the scale of being, and suggest the incompleteness of all things when measured in the balance of eternity.

Birth and cradle, death and the grave, are hints and shadows of the boundaries and limitations of entities.

They also suggest that in the absolute there is no first cause. Causation is a measure of time but not of eternals. Every atom and every energy is an activity of intellectuality; an activity without beginning or ending. We cannot differentiate between the organic and inorganic, the chemical and the vital forces and conceive of mind without matter, or matter without mind. All forces visible or invisible to our senses embody substantiality. Nothing can be destroyed. What we apprehend as disease and death is the triumph of other conditions of vitality than we are led to ascribe to health, actuality and entity. Were the solar systems, or any other of the planetary systems, to be scattered by their convulsive agencies, they are capable through the substances composing them of reconstructing themselves somewhere in eternity.

The volition of man is not unlike the molecular actions of what we classify as the ethereal and the mineral, the vegetable and the animal kingdoms. Man was not planted as a separate individual on this globe; nor did he come here by chance or any reputed miracle. He is a product of the involvements and evolvements and expansions of limitations by cosmic forces, energized into higher individualisms, of which, so far as we know, except by inference and conjecture, he is a consummation in keenness of sense and freedom of intellectuality. All births and all deaths, with their joys and their sorrows, are assurances and certainties in themselves of immortality. Through these selfsame births and deaths he has emerged from lower to higher forms of life—from barbarisms to civilizations.

He can never comprehend his relations to the universe, but the enlarging of his vision will always beget larger capacity and responsibility and sweeter impulses toward the acknowledgment of the unity of the race, and brotherhood in man.

The golden rule as we have it, whatever personality deduced it, or whether we apply it to man or beast, is the formulation of humanity. Every endeavor, however small, to carry out this logical conclusion, always means further emancipation, larger freedom, and greater happiness to mankind.

The callings of man as a social being are as numerous as his necessities. But of all the attributes of which he is possessed, inherent or acquired, none have been regarded more significant than his power, real or imaginary, to succor the weak and to heal the sick. The acknowledgment of this power runs through the annals of time like a golden thread. It is the lovliest virtue in all the traditions which have blossomed and ripened into the older mythologies and later theologies. We find its prototypes in times prior to the fabled Chiron or Æsculapions, or the humble Nazarine—the healer of the leper. In art, in poetry, in literature or in real life, a picture representing mighty deeds of prowess may dazzle our senses for the time being, but it does not linger in our consciousness like the memory of a delightful dream. We recall

with greater pleasure the expression in the face of the wounded spaniel while the young master is extracting the thorn from its foot, than we do the representation of a Samson tearing asunder the jaws of a lion, or the slaying of tens of thousands of his fellow creatures with the jaw bone of an ass, or the barbaric splendor of a chariot race. The one emphasizes the fleetness of temporary glory and suggests death and annihilation; the other points to the evolution of something higher and lasting in the possibilities of the race, and hints at immortality, and typifies the ideal doctor and his patient. We behold Christ nailed and writhing to the cross, and shudder with despair at the thought, the sons of men and women will never be less cruel and heartless. But our doubts are dispelled and our hopes inspired anew, that life's most beautiful dreams will be fulfilled as we look at Mary, tenderly bathing and anointing the feet of her master, foreshadowing the faithful nurse.

The veterinarian like the doctor and the nurse to man, is an evolution. The time is fast approaching when the two vocations shall occupy a footing of nearer equality.

The calling of the veterinarian, like its ally, springs from the best and sweetest impulse, viz., a desire to assuage and remove pain, and to care for and nurse domestic animals. The expansion of this desire has given birth to schools and colleges all over the civilized world, where a more scientific knowledge for practice in this particular branch of medicine and surgery may be formulated and imparted. Though these schools and colleges are comparatively young, they are making wonderful progress in the domain of practical research, which is already productive of good both to man and beast. They already are contributing valuable hints to the science of medicine as applied to man. The brilliant achievements in this direction are fast winning acknowledgement, though often reluctantly given. The experiments in America and Europe attest this fact. They hint at discoveries in explored regions that centuries failed to make, through the professions of those who regard man as a special and distinctive feature of the animal creation thought to be introduced into this mundane sphere by unnatural means and miracles.

The veterinary doctor of to-day has an advantage in not having to encounter so much superstition begotton of ignorance.

You gentlemen are assembled here to-day to celebrate your graduation from the college to a school of broader activities. The diplomas you receive are simply hints of an unfinished race in which you are entered. They are not guarantees of success. Their value depends upon the amount of stimulus they bring to your powers in the contest in a larger arena of usefulness.

All systems of medicine and surgery should tend to be corrective and seek to prevent the propagation and perpetuation of diseased conditions, which conditions mostly result from the products of vital forms, and which we conveniently call parasitical, bacterial, and infusorial. The field of opportunity veterinary medicine and surgery presents is broad and inviting, and contains many experimental hints for rational medicine and surgery as related not only to the study of brute life, but the study of mankind. After all said, the proper study of man is the *world* in which he lives and moves and has his being. Were we to know the whole truth we would find there are no disconnecting links in the mineral, vegetable, animal and man kingdoms. All forms of life are cast in divine moulds. Man is potentially greater only as a sequent resulting from the productions and modifications of the same vital principle involving and evolving all forms, all genera, and all species, including the embodiments of human traits and characteristics, a ceaseless impulse without beginning and without ending. Nor is it to man's discredit that he be a regenerate ape; for this fact bespeaks his further regeneration. Human thought and human intelligence in the stricter sense are no more marvelous than the scent of a dog, and the sagacity of a horse. The finest model of man's architecture is no more wonderful than the home of the ant, and the cloistered cell of a bee-hive. The most intricate piece of fabric from the weaver's loom finds its counterpart in the spider's web. The conceptions and songs of the poets are no sweeter than the roundelays of the mating birds hinting at

some beautiful law of natural selection in marriage among the sexes. The love of our mothers is no stronger and no more reasonable than the affection of the mare for her colt. All these things are hints of unfulfilled destinies, and of activities sustaining relative parts in the awful drama we call life and death.

Since man's responsibility increases, and his powers of volition, man's chiefest happiness taken individually and collectively, is found in the exercise of his freedom for the continued uplifting of humanity.

The veterinarian, like the worker in other fields, finds himself face to face with many problems which this century of the Christian era fails to solve. He is entitled to a recognition commensurate with the dignity and worth of his profession. The term "horse doctor" should be listed with obsolete words of opprobrium. His fellowship is with the scientists of all schools for investigation. He deserves the co-operation of all searchers after truth and its practical application to the welfare of the race. The individual who can in the least help correct the practice which for commercial gain allows our tables to groan with flesh and lacteal fluids concealing germs of destruction of human kind, is a law maker as well as a benefactor, whose benediction is holier and more far-reaching than the apologies of prayer.

The usefulness of the veterinarian is not confined to his laudable endeavor at treating the ills to which flesh is heir, and bringing succor to the suffering; nor does it cease with its effort to arrest the conveyence and transmission of diseased conditions found in cattle, to men; nor does it end with his suggestions of a regimen of exercise and diet for a determinate result in health; but he has a still higher mission. He follows in the footsteps of the botonist and the horticulturist who produce for the use of man better fruits and fruit-bearing trees, by their hints for a systematic seed and scion culture. In the stock-breeding experiments, he suggests truths for the perpetuation of the more sterling qualities of animals in strains of beauty, speed, strength, endurance, docility; he hints at a study of paternal functions from a higher intellect-

ual and moral standpoint than hitherto attained among men. He furnishes invaluable data and logical deductions for the upbuilding of the most important of all sciences—sociology. Only by stricter methods scientifically applied to the growth of the race can completer health, happiness and longevity be insured.

In the study of animals, veterinary surgery and medicine hint at the intimate relation of all physical and moral ideas. Why may it not become an important factor in teaching the sacredness and value of foetal life in human species, and assist in arresting the practice of foetecide so alarmingly in vogue that our homes are filled with wrecks of womanhood. Foetecide is the wholesale murder of infinite possibilities in the womb of the future!

As you leave the college to engage in the active work of your chosen profession, your enthusiasm will determine your lines of duty as gentlemen and as citizen of this republic.

Your first patient is perhaps a horse—a most beautiful exemplification of vital forces. You should not regard him as a wholly dumb beast. He is stiffened with rheumatism engendered by overwork, over-feeding, and ammoniacal gases that surround him. Pray desist in your attempts to exorcise the monster with a bolus, or by robbing him of his vital fluid without first seeking to rectify conditions productive of his discomforts. His mute appeals are hints for better sanitation, better food, purer water and rest.

Will you profit by his hints? Perchance your example may induce your professional brethren who have in keeping the families of men, breathing the foul air of school rooms, theatres, churches, and other places of amusement and instruction, and drinking the impurities which flush our hydrants, to unite with you in a common warfare for less cruelty to animals, for better hygiene, for more wholesome food, for purer water.

In concluding, you will pardon me for recalling an illustration I once used on a similar occasion. At the old exposition building which stood on the lake front, not many months ago, there was on exhibition a small painting. It was visited

by many thousands of people. In this masterpiece the artist has so succeeded in projecting on canvas the truthfulness of natural prayerful posing that the entire freedom from affectation of the two figures sketched in an open field of nature, holds all spellbound and wrapt in admiration. So faithfully is the central idea of the artist outlined in the painting, the effect is the same when one catches a glimpse of the picture after it is transferred to a cold engraving, in which it is robbed of color and warmth. Our lives should be so attuned to the grand centralizing idea of the golden rule, that the influence of our labors and aspirations, wherever our lines fall, shall not be unlike the spirit of truth expressed in Millet's Angelus. It lies in the power of all to contribute something toward the betterment of the world.

SARENA—ITS ANTISEPTIC AND DEODORIZING PROPERTIES.

By Dr. R. Artmann, Buffalo, N. Y.

It is with a hope that my bacteriological investigations concerning the germicide and antiseptic properties of the new compound, "sarena," may prove of some interest to your readers that the present communication has been prepared for the Review. Having obtained some extraordinarily good results by the use of this new compound in the treatment of wounds, and especially of wounds of a suppurative and ulcerative nature, I became convinced of its active qualities as a disinfectant and deodorizing element, and in order to demonstrate the facts as they exist began a series of experiments, confining my researches to its action upon the virus of anthrax of tuberculosis and of glanders.

It is a well known fact that anthrax is the most resistant of infectious diseases, and that its germs are the most difficult of any to destroy, and I therefore began my work by giving my special attention to the effect that sarena might have upon the micro-organisms of that disease. With this object in view, I took a number of silk threads loaded with germs (sporen) of anthrax, and (Seidenfaden Nilzbrand) inoculated three guinea-pigs on the morning of 24th of March, at eight

o'clock. Two of these animals died at noon of the day following, or in from twenty-eight to thirty hours. The third was found dead in his cage the next morning. The autopsical demonstrations revealed *tumor lienis and catarrhus intestinalis hemorrhagicus*, and in all three cases the microscope confirmed the anthrax condition.

From these lesions I made cultures and impregnated some of the silk threads, and treated them by soaking them in a sarena solution of 1-2000, and even stronger, the result of the inoculation being negative as to the development of anthrax, and only in a few exceptional cases being followed by a little suppuration at the point of insertion.

EXPERIMENT I.—Operating with a solution 1-2500, I saturated ten silk threads, and used them as follows:

No. 1 was used immediately after being dipped in the solution.

No. 2	after	remaining	½	a minute.
No. 3	"	"	1	minute.
No. 4	"	"	1½	"
No. 5	"	"	3	"
No. 6	"	"	5	"
No. 7	"	"	20	"
No. 8	"	"	40	"
No. 9	"	"	60	"
No. 10	"	"	2	hours.

Ten guinea-pigs were thus inoculated on the 31st of March, at 4 P.M. The animals were feeling very well until the afternoon of the 4th of April, when my assistant reported No. 2 at being sick. When I saw him I observed that not only No. 2, but also No. 1 and 4 were affected, though less so than No. 2. At noon of the day following the inoculation the animals had all eaten well.

The symptoms then observed were the following: slightly comatose; no appetite; great thirst; sometimes very nervous, or again lying down to jump up again, as in convulsions. These symptoms subsided on the 5th of April. The other animals showed no signs of illness.

On the 6th of April, at 8.20, I inoculated six more guinea-pigs, as I had done before, as a means of control. On the

morning of the 11th of April Nos. 2 and 3 of these exhibited the same symptoms with those of Nos. 1-4 in the first experiment. One of these I killed one hundred and twenty-four hours after the inoculation, with the following discoveries: *Post-mortem* results: Small tumor lienis; slight intestinal catarrh; no anthrax germ, either under the microscope or in the cultures made from the lien bowels, or from the injection spot. I also killed the other, as he showed signs of convalescence, late in the afternoon of April 11th, (or after one hundred and thirty hours).

Post-mortem: Slight intestinal catarrh; no tumor lienis; microscope and cultures both negative as to germs of anthrax.

Why did not No. 1 become sick, though he got stronger virus, I cannot explain, except that he was a stronger animal, and more able for that reason to resist the disease.

EXPERIMENT II.—Solution 1-3000. Preparations of the silk threads as in the first experiment; day of the inoculation, 31st of March at 4.30 P.M. On April 4th, two pigs (1 and 3) were sick in the morning. At noon pigs Nos. 2, 4 and 5 were sick, and in the evening all the others were in a similar condition. They all recovered. In three of the controlled cases the post-mortem discoveries were similar to those of the first experiments, and there was no trace of anthrax germs.

EXPERIMENT III.—Solution 1-4000; same experiments and same results.

EXPERIMENT IV.—Solution 1-5000. This time one change was noticed; the day of inoculation 31st of March at 5 P.M.

On the morning of April 4th pigs Nos. 1, 2 and 3 were dead; 5 and 6 were very sick, lying in a comatose state in their cage, while No. 8 showed only slight indications of sickness. The remaining subjects continued healthy. No. 8 recovered in the afternoon of the same day, and took some food. Nos. 5 and 6 were convalescent the next day. At the post-mortem of Nos. 1, 2 and 3 all the anatomical lesions of anthrax were present, lienis tumor, especially in No. 1: dark liquid, non-coagulating blood, muddy hemorrhagic catarrh of the intestines; with the microscope anthrax bacillus. In the hanging drop of the excavated object glass, in nutritious

bouillon, a most interesting fact was observed, viz., that after twelve hours in the breeding apparatus the bacilli, though they had grown, did not present the characteristic granulated appearance—a fact which was confirmed by the cultures made on glass plates and reagent glasses. The cultures grew very slowly, and were not of their usual size or aspect. After thirty-six hours I could count only about twenty colonies on ten glass plates.

Inoculations were made in five cases with this material, but in one only were there signs of sickness after one hundred and thirty hours, and in this I was unable to determine positively that his sickness was of the nature of anthrax. From this I infer that with a solution of 1–5000 the bacillus loses its aspect and its growing properties, but that it may still be effective in a first inoculation.

EXPERIMENT V.—Sarena solution, 1–7500; day of vaccination, 31st of March at 5.30 P.M. On the night of April 3d Nos. 1, 2, 3, 4 and 6 were dead, and all the others very sick, especially No. 5, which was in a very comatose condition. They recovered after from twelve to eighteen hours of sickness. Both the post-mortem and the microscope showed anthrax lesions. Cultures grew up in twenty-eight hours, and inoculation proved fatal in two out of ten cases.

EXPERIMENT VI.—Sarena solution 1–10000; day of inoculation, 31st of March at 6 P.M. Nos. 1 and 7 died on the second day; No. 8 on the third, and Nos. 9 and 10 recovered in four days after severe sickness. Cultures were also prolific but slow.

CONCLUSIONS.—The results of these experiments are that a solution of 1 in 2000 is a good and sure prophylactic and preventative. It immediately kills all germs. Experiments relating to the direct contact of sarena with other bacilli-cultures are not yet completed, but will, I believe, give still better results. I have also experimented with the bacillus tuberculosis, and I am satisfied that a solution of 1 in 3,500 is perfectly sufficient to arrest completely the further fructification of the bacillus. A solution of 1–3000 produces some effect, but fails to destroy the bacilli or germs.

GLANDERS.—Cultures are more sensitive to sarena in glanders than into tuberculosis. A 1–5000 solution is sufficient to kill the micro-organisms of glanders. I have sent to German and Russian institutes the result of these investigations, and have asked that similar experiments of control be made, and while waiting for a response I believe I am justified in saying that sarena is one of the most powerful of the antiseptic preparations at our disposal as a disinfecting agent against communicable diseases. I have also made some experiments for the purpose of testing its properties upon putrefying solution of organic matter. With a 1–1000 solution the breeding of cultures is impossible—an evident proof of the death of the bacteria of putrefaction. With a 1–5000 solution, twenty minutes' application failed to destroy the bacterium germs, etc., but it removed all bad smells. After two or three hours the power of growth in the bacteria is abolished, and the germs are destroyed.

There is, in other words, a peculiar chemical decomposition which takes place in the solution, the nature of which I am at present unable to explain. Is it that the g owth of the micro-organisms is interfered with by an increase of their excretions? Are they, as it were, suffocated in them? I believe that a molecular modification has taken place, but what? Is it similar to that obtained with phenic acid? All this requires more study and more experimentation, of the result of which I will at a later period inform you.

CASTRATION OF CRYPTORCHIDS.

By PROFESSOR F. MAURI, of the Veterinary School of Toulouse, France.

(Continued from page 83.)

SURGICAL ANATOMY OF THE INGUINAL REGION IN THE HORSE.

The first condition of success in the castration of cryptorchids is a perfect knowledge of the direction to follow in the inguinal region in order to reach the testicle in ectopia. The most perfect asepsia would be powerless to insure success, if the hand of the operator should follow a wrong road during

this very delicate step of the operation, and for this reason I have deemed it indispensable to say a few words as to the topographical anatomy of the region, before entering upon a description of the *modus operandi*. Others before me, and especially Messrs. Degives and Jacoubet, have given a minute and precise description of the inguinal region of the horse, and I certainly have nothing to add to the excellent work of these two authors; but it has appeared to me that in order to better reach my object, viz., to familiarize the idea of the operation among veterinarians, it will be of advantage to give them a description as plain and accurate as possible, not of the entire inguinal region, but of its essential organs and their most important relations. If a long and minute description would be apt to tire the minds of those who may have mostly forgotten what they had previously studied, it is also possible to produce hesitancy and apprehension in the operator, by the multiplicity of anatomical details to which he may attach exaggerated importance. The inguinal region will not, therefore, be described in the sense given to that term by anatomists, and I shall only indicate the parts of which a knowledge is indispensable. I would first consider the inguinal region itself, and subsequently, the testicles and the various positions they may occupy.

First.—INGUINAL REGION.

This is constituted by the angle formed by the union of the inferior abdominal wall with the internal crural region. Running obliquely downward, inward and from before backward, it extends from the external angle of the ilium to the anterior border of the pubes, offering for consideration the inguinal ring and the inguinal tract or interstice, of which the description possesses a special interest in relation to the operation under consideration. Before considering these two organs, let us glance at some of the anatomical dispositions presented by the fleshy portion of the small oblique muscle of the abdomen and the crural arch, which are the boundaries, before and behind, of the place of the entrance for the initial procedure of the operator.

The fleshy portion of the small oblique, triangular and

flabelliform, proceeds from the external angle of the ilium and the superior and external quarter of the crural arch. Its posterior border, slightly elevated, simply rests upon the crural arch, to which it is united by a loose connective tissue, except on a level with the inguinal ring, where the two organs are separated. At this point the small oblique is covered by the aponeurosis of the great oblique, which very thin and almost connective tissue twists by its archiform fibres around the posterior or external lip of the inguinal ring.

The crural arch is a wide fibrous band, very strong and resisting, which, attached by one extremity to the external angle of the ilium, and by the other to the anterior border of the pubes, spreads itself upon the pelvi-crural muscles, and diminishing in structure, enters upward into the abdominal cavity. In the superior quarter of its length, it assists in the attachment of the small oblique muscle, and in the rest of its extent is simply resting on the posterior border of this muscle, thus co-operating in the formation of the inguinal canal and of the inguinal ring.

(*a*) *Inguinal Ring.*—This is an oval opening easily felt under the skin, near the anterior border of the pubes, at the point of union of this border with the pre-pubic tendon of the abdominal muscles. Its great diameter is obliquely directed from before backward, and from without inward. Pierced through the aponeurosis of the great oblique of the abdomen, the inguinal ring, exposed by the incision of the scrotum, and of the dartos with the laceration of the connective tissue underneath, presents two lips or borders, one anterior or internal, the other posterior or external, and two commissures, one anterior and one posterior.

The anterior or internal border is formed by the posterior border of the small oblique, upon which rest and adhere the fibres of the aponeurosis of the great oblique. This border is soft and inextensible, and though imperfectly defined by the touch, yet allows easily of a certain degree of dilitation of the inguinal ring.

The posterior or external border, well stretched and resisting, is formed by the crural arch. It is straight, and by

its direction breaks the curve described in its whole by the inguinal ring. The anterior commissure is constituted by the angle formed by the pre-pubic tendon and the crural arch, as they are inserted upon the anterior border of the pubis. This is a point *de repere* and a precious guide for the operator, indicating as it does, positively, the actual position of the inguinal ring.

The posterior commissure is not well defined, a result of the lesser resistance of the archiform fibres of the aponeurosis of the great oblique muscle, which form it, and which cover the small oblique whose fibres are also quite loose. Thus made up, the inguinal ring is the opening ending the inguinal canal below and through which the hand of the operator must enter. It is also through this that the testicles, when passed out of the inguinal canal, come to occupy their normal position in the testicular bags.

(*b*) The inguinal tract or interstice, thus so happily named by Mr. Degires, because in cryptorchids there is as yet no inguinal canal, is situated between the posterior border of the small oblique of the abdomen and the crural arch. It is neither a canal nor an empty space, but simply an interstice, completely closed, and filled by loose cellular tissue. It runs obliquely from above downward, from before backward, and from without inward, and extends from the superior quarter of the crural arch, where a part of the fleshy fibres of the small oblique are inserted on the inguinal ring. About seven inches long it is closed above by the peritoneum, which rests on its edges, and is filled up by the sub-peritoneal connective tissue, which is continuous with that of the tract itself, and which becomes more loose and abundant as it approaches the inguinal ring.

It is very important, in a surgical point of view, to avoid misunderstanding the inguinal interstice and confounding it with the inguinal canal. At first, it seems to indicate the direction of the latter, if it existed, and the proper one to follow in searching for the testicle in abdominal ectopia. But the inguinal canal, constituted by the vaginal sheath, is situated on the side of the pre-pubic region at the lower part of

the inguinal interstice, and in an oblique direction downward, backward and inward. It is about three or four inches long, and is situated between the crural arch and the posterior border of the small oblique. The operator who, after passing through the inguinal ring, would expect to find the testicle in that direction, would certainly meet with a failure—indeed, not only would he meet with great difficulties before reaching the testicles, but their oblation would besides be extremely difficult on account of the shortness of its suspensory ligament, which would prevent it from being brought on a level with the inguinal ring in order to be amputated. And not only so, but what would be a still more serious matter, the inguinal interstice, thus opened at its inferior part, would soon be filled by the intestinal mass, and the operator would find himself in the presence of an incurable eventration.

I have encountered this accident on one occasion, and was very much discouraged by the complication which at first I thought could not be avoided. Simulated operations, performed afterward, have given me greater familiarity with the correct mode of procedure, so that I am now able almost without danger to penetrate the peritoneal cavity and secure the testicle in ectopia. This is the whole secret of the operation, as we shall show at a future time.

(*To be continued*).

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."—VETERINARY RECORD.

INDIGESTION—AZOTURIA—PURPURA.

By W. H. GRIBBLE, D.V.S.

On Sunday, April 23d, we were hurriedly called to see a four-year-old, 1,100-pounds, sorrel mare, trotting bred, and which had suddenly been taken sick while being driven; found her lying by the roadside, bloated, rolling, pawing, etc., in fact, a well marked case of acute indigestion; gave eserine

sulph. gr. one hypodermically, and in a short time large quantitities of gas passed per anus, and in an hour was considered well.

The owner desired to take her to a barn about one-quarter of a mile distant, and he proceeded to take her there. On his nearing the barn we noticed that they had almost to drag her, being partial paralysis, hardened, and enormously swollen muscles, and our case of acute indigestion had become one of azoturia. She was taken to a good box-stall, and being constipated the following was given: Hyd. sub. mur., one drachm; ext. colocynth comp., one and one-half drachms; alœ barb., four drachms; olei lini, one pint. In less than an hour she was down and unable to rise. Citrate of lithium, two-drachm doses, every four hours in sufficient water, and potass. chlor., one-half-ounce doses every day in her drinking water was ordered. Next morning the cathartic not having acted, olei. lini., one pint, was given; other treatment continued. On the fifth day the lithium citrate was stopped, and liq. potass. arsen., one ounce daily, substituted. Potass. chlor. in water continued. On this day she was raised with slings and stood about two hours, and every day after she was raised until the tenth day when she was able to get up herself.

During all this time the appetite had been fairly good, and was now all that could be asked for, and we supposed our patient out of danger, as no bad symptoms presented themselves, and only from loss of flesh and a few bed sores, one would not have known she had been sick. She was turned out to grass and carefully watched. One evening, after being out but a few days, when being fed and cared for, nothing wrong was noticed; but next morning she was found with swollen limbs and nose, and no appetite, and so we were again sent for. Imagine our surprise to find our acute indigestion, azoturia case now presenting the well known characteristic symptoms of purpura hæmorrhagica, which caused her death inside of thirty-six hours after.

Now here is a case where in the treatment of azoturia potass. chlor., one-half ounce, had been given every day for

nearly two weeks, except the three days preceding the symptoms of purpura, and yet from the time the first characteristic swellings were noticed to the time of death was less than forty-eight hours, and the hygienic surroundings were of the best, and the owner a most excellent horse-nurse. This is not our first and was not our last case of azoturia preceded by acute indigestion, but is the first case I have known of azoturia ending in purpura hæmorrhagica.

LACERATED WOUND OF EYELID AND HEAD.

By L. HEMPELMAN, D.V.S., House Surgeon American Veterinary Hospital.

The patient was a gray gelding belonging to a well known firm of this city. He was brought to the hospital on April 17th suffering from a lacerated wound of the eyelid and head, which extended from the external face of the orbital process of the frontal bone within about one inch of the median line. The laceration was crescent-shaped with the convexity upward, making a wound about four inches long; between the muscles of the eye and the bone a probe could be passed to a depth of about two inches. The flap hung down, exposing the whole contents of the orbital cavity.

The history was that he had gotten cast in his stall the night before, and was found with the above described laceration the next morning.

After carefully washing the wound with an antiseptic solution and removing a piece of the frontal bone, about three-quarters of an inch long, and one-quarter of an inch in diameter, the flap was sewed in place by means of interrupted silk sutures. On the 21st, or four days after the accident, it was noticed that the sutures were commencing to give way, and strips of adhesive plaster were then applied to support the flap. These were continued for five days, the wound having been carefully cleansed with antiseptics every day, and fresh plasters applied. By the 23d, or the sixth day after the accident, all the sutures had been removed, and it was found that for about an inch and a half the edge near the median line had adhered, or reducing the length of the wound to about one-half its original size. The granulations looked healthy,

but a pocket had formed in which pus collected. This was opened to allow of free drainage. After April 26th the only treatment that was followed was to wash the wound every morning with a creolin solution, and to stimulate the edges with mild cauterization with nitrate of silver. The wound closed rapidly under this treatment.

EXTRACTS FROM GERMAN PERIODICALS.

By Richard Middleton, D.V.S., Philadelphia, Pa.

EPILEPSY INDUCED BY ASCARIS MEGALOCEPHALA.

Since the majority of veterinary writers do not totally disclaim the possibility of the round worm as a factor in the ætiology of epileptiform convulsions, we desire to relate an instance of reflex spasms induced in our opinion by ascarides. The case was a nine-year-old mare of the common breed, belonging to a farmer in moderate circumstances.

According to a detailed statement of the owner, who had raised the horse, the animal had become thin within the last year; the coat was dry, brittle and without lustre. Repeated disturbances of the digestive tract as evidenced by alternate constipation and diarrhœa, and in the last ten months intermittent attacks of colic. For four weeks preceding our visit, associated with other symptoms, which seemed referable to the weakness of the assimilative tract, appeared spasms, which recurred every three or four days. The same occurred two hours after feeding, and had increased in intensity and duration lately until now they lasted from three to four minutes.

Status Præsens.—Animal badly nourished; hair unkempt, coarse and erect; ribs prominent and cuticle tightly covering the same; visible mucous membranes of a pale yellow glance, stomatic and lingual membrane dry and hot. Pulse small and hard, indicating thirty-eight per minute; heart irregularly intermittent; rectal temperature 100.5°; nothing noteworthy detectable in the respiratory tract; appetite at a minimum, but increased thirst; peristalsis and defecation retarded. The train of symptoms observed by myself and

stated by the owner were not sufficient to convince me as to the ætiology. Upon questioning, the owner admitted to have seen worms passed with the manure. A pill was administered to the patient composed as follows:

℞

Aloes pulv.,	ʒ viss,
Creolini,	ʒ iiss,
Farin. sec. et aquæ com. q. s.,	

M. et. f. Bolus.

Sig.—At one dose.

On the second morning we arrived at the place shortly after the animal had been fed; the ball had the desired purgative effect, and in the material defecated numerous worms were discovered.

While conversing with the owner we had an opportunity to observe one of the characteristic attacks. The patient became unquiet, quivering over the whole body, suddenly tumbled against the partition, and fell to the knees. The occipital and cervical muscles were contracted on the right side; the upper lip elevated. The eyes stared and partially revolved, during which state the membrana nictitans was propelled forward, occluding momentarily the vision.

Consciousness and sensibility had for the time being apparently disappeared. After the lapse of about a minute, a gentle sweat exuded, and the conjunctiva became reddened by venous blood. The patient gradually recovered, but was evidently exhausted; after five minutes the condition was so far improved as to appear normal.

We ordered all food kept from the horse except a small quantity of hay, which, together with water, constituted the rations for the day. On the following morning we administered ʒ iij of antimony et pot. tart. dissolved in a bottle of sterilized water. Later the animal was given an injection of gr. $1\frac{3}{4}$ of eserin sulph. which emptied the passages of liquid feces containing a considerable number of ascaris megalocephala.

After fourteen days the owner observed another attack of spasms, and we again gave the anthelmintic, with the result

that only six examples of the worm appeared. This was the last noted recurrence of the spasms, notwithstanding personal observation extending over four months. The sudden inhibition of the cramp and spasms, directly after the expulsion of the parasite, leaves no doubt, in our judgment, of the cause of the symptoms.—*B. Thier. Woch.*

ACTINOMYCOSIS IN THE HORSE.

A foal one and one-half years old had a swelling the size of a hen's egg upon the inferior maxillary, directly below the first and second premolars. The formation was pierced with four fistulous tracts, and in the solid debris secured therefrom the actinomyces were found.

The treatment consisted of internal doses of pot. iod. ʒ iv to ʒ v, and injections of the tincture of iodine into the tracts. After the expiration of five weeks symptoms of iodine poisoning manifested themselves (dry and brittle hairs, and roughness of same, anorexia and emaciation), but which disappeared after dropping the use of medicinal agents for fourteen days. In the interval, however, the swelling was irrigated and injected with a three per cent. creolin solution, and the "Berlin fistula tincture," as follows:

℞ Cupri sulph.
Ferri. sulph.
Ac. tannici ad ʒ i,
Ag. font. ℥ iij.
M.

Sig.—To be used externally or as an injection.

The iodine treatment was recommended and proceeded with until the patient had received two pounds of the pot. iod. internally, and one pound of the iodine tincture externally.

Actinomyces were always to be found in the discharges.

The injection was now changed to a 10 per cent. solution of cupri sulph., which we used four weeks, with the result that three fistulas disappeared.

We have lost sight of the patient, but so much has been shown, that the iodine treatment may be considered unsafe

and uncertain, while the beneficial effects of copper in this one case must be admitted.—*Ztsch. f. Vet. K.*

OBSTETRICAL PRACTICE.

OBSERVATIONS IN PUERPERAL ECLAMPSIA.—Roeder does not believe that the "Frank" theory of the ætiology of this disease—excessive contractions of the uterus—can be so adjusted as to be useful in explaining the cause when the affection has taken possession of the subject previous to parturition. R. has also found on post mortem that the uterus was only slightly contracted, and as a direct result of this he bestowed especial care on the section of all cases of parturient apoplexy brought to him. He has not been able, after recording some twenty such cases, to state that unusual contraction of the womb was present.

Another proof adduced against the "Frank" theory is the fact that cases of this disease have been found in which the foetal membranes were retained, post mortem showing that the uterus could not have contracted. The author, in one instance, was able to inject two buckets of water into the organ. From this infusion the animal immediately derived benefit, as exhibited by the general brightness and vivacity. The same irrigation was repeated several times daily, and Roeder noted that the uterus each successive time contained less.

The capacity of the organ becoming smaller after each consecutive injection, the patient was discharged as cured in four days.—*Berlin Wochschr.*

AN UNUSUAL NEW FORMATION.—Wolf found in the uterus of a cow that had been destroyed, after delivering a seventy pound calf, an immense formation of extraordinary composition and appearance. The same was as long as broad, and as thick as long, therefore spherical in dimensions, reddish in color and partly covered by a thin placenta.

Sections from the tumor appeared homogenous, lardaceous, compact and of a white color. The weight indicated two hundred and seventy-eight pounds.

ABORTION IN SHEEP.—Karl, of Mauheim, communicates an instance of contagious abortion in ovidn. A herd composed half of the merino and half of a common cross-breed, were pastured together upon a well ordered farm.

In the winter season the merinoes were all premature in parturition, while the commoner sort bore as healthy sheep should. Too much in-and-in-breeding is assigned as the cause.

PROCEEDING IN RETENTION OF THE PLACENTA.—Brueller used solution of creolin, or of liquor alumen acet., and several days later applied manual force. Corrosive sublimate is never to be recommended, and creolin only in very weak solution. When the placenta has been four or five days withheld, Brachinger irrigates three times daily, using ten quarts of a potas. permanganate solution, temperature 104° at each injection. As a rule the membranes are rejected in four days or less. Liebl uses creolin water continuously for two days, after which time, the envelopes not appearing, manual aid is extended to the animal.

CONGENITAL CLOACA IN SUIDÆ.—Rotter found the anus to be wanting in a slaughtered, half year old swine. The animal was in a goodly condition, and intra-vitam had excreted urine and feces through the lips of the vulva. The rectal and vaginal cavities were made communicative by means of a forearm one and a half inches in diameter, not supplied with valvular appendages. In other respects the anatomical conformation was normal.—*Koch's Œsterr. Wtsschr.*

PURGATIVE AGENTS.

Medicines of this nature, which may be introduced into the body through the skin, and which have no secondary influence upon the organism, are indeed scarce; aloin, acid. cathartinicum, senna, colocynth pur. (Merck), and citrullinum (Merck), are the more prominent of this class.

Nevertheless the introduction of these medicines is associated with pain to such a degree that even with the addition of cocaine the agony does not disappear. Objection has been made to their use on this score alone. That this disagreeable objection may be obviated, Kohlstock dissolves the agents in

certain liquids, and by means of a glass syringe holding half a drachm projects them into the rectum.

Aloin and ac. cathartinicum are suitable for slight constipation, while colocynth and citrullin are more properly made use of in habitual constipation. The method of prescribing is as follows:

℞ Aloin, ʒ ss,
Form amid, ʒ iiss.
M.

℞ Ac. cathartinici,
Sennæ aa, gr. xlv,
Aq. distill, ʒ ii,
Sodii bicarb. ad, gs,
React alkalin.

In chronic and stubborn constipation colocynth and citrullini are used as follows:

℞ Colocynthin, gr. xv,
Glycerini,
Spiritus ad, ʒ iii.
M.

℞ Citrullini, ʒss,
Spiritus,
Glycerini ad, ℥ iss.
M.

Therapeutische Monatsh.

THERAPEUTIC NOTICES.

Botazzi gives the following treatment for spavin in the horse Animal is cast, the hair is removed from the elevation, and an incision two inches in length is made directly in the middle of the same. The labia of the wound are permitted to fall from one another in order that the subcutaneous tissue may be exposed and removed.

Two or three indentations are now burned in the substance of the bone, in the form of a triangle, having its base superior. Antiseptic bandages, etc., are applied. B. states case cured in thirty days.

FOR INFECTIOUS DIARRHŒA IN CALVES.

℞ Ac. lactici
Ac. salicylic aa ʒ i,
Naphthol, ʒ iiss,
Syr. simplicis, ℥ v,
Aq. destill., ℥ iii.
M. et. f.

Sig.—Fine half tablespoonful before each meal.

FOR ULCERATING WOUNDS.

℞ Ac. salicylic,
Ac. boric,
Zinci oxid,
Amyli pulv aa ʒi,
M. et. f. Pulv.

Sig.—To be used as a drying powder.—*Therap. Monatsh.*

Block, of Oeseda, has used the following epispastic with great success in the removal of painful conditions incidental to exostoses about the phalanges, tarsal articulations, cold abscesses and chronic sprains:

℞ Ung. canth.,	ʒi,
Firch. canth.,	
Firch euphorb. aa	ʒss,
Ol. crotonis,	gtt. xxxx,
Hydrarg. biiod. rub.,	ʒi,
Butyri. insulsi,	ʒi.

M. et f. unguentum.

Sig.—Apply sufficient to the clipped surface, and by means of a heated iron one inch from the skin facilitate the absorption.

Buquet applies the following in alopecia with remarkable results:

℞ Ol. cinnamonie, chin.,	ʒiiss,
Aeth. sulph.,	ʒi.

M.

The hair upon the part is cut as short as possible, and the application made once per day, by means of a tuft of cotton; washing or otherwise cleansing of the spot is to be forbidden. Cases of long standing, from one to four years, were concealed by hirsute fiber in a very short time.

As an anthelmintic against tape and round worms, Dr. T. Clemens, of Frankfort-on-Main, recommends creolin and lysol. A tania which had resisted the action of numerous

medicines, yielded within four days, to gtts. xxv. of creolin four times daily in milk, supplemented by two clysters of gtts. cx each, also in the same fluid.

Ascorides disappeared after a single clyster of gtts. xxxx of lysol incorporated in milk. Also by three tablespoonsful of cod liver oil administered at consecutive intervals, and in each of which were gtts. lxxx of lysol. These medicines do not burden the stomach or intestines.

Benzine is put forward by Nedzwiecki with much fervor as an agent against pediculosi.

The same may be applied as it is commercially dispensed, and in this form proves the most practical, cleanliest and withal the most effective agent for the annihilation of lice. The infected regions of the anatomy must be bathed continuously for five minutes; the parasites and their abode are destroyed immediately. The result is generally uniform, and a single application suffices to cure the most obstinate cases.—*B. T. W.*

PROFESSIONAL ETHICS.

The following card or circular, containing, among several explanatory sentences, the profile of a horse, was sent to the receiving department of this paper:

I now live in my new house, at No. 315 Oatstore, which is at the intersection of Red Alley.

Medicines,

though only for animals, are prepared and dispensed for rock bottom prices; salves, insect powders and solutions for the destruction of all animal parasites, are sold in doses as small as two and a half cents' worth.

Milk powders for the cow, sow and mare. Powders for hysteria of the sow. Powder for the prevention of post partem paralysis, proven by thirty years of continuous application to be reliable. These medicines will be sold in quantities ranging from six to twenty cents' worth.

Operations.

Castration of the stallion by means of binding, seventy-five cents; by the clamps, one dollar and fifty cents. Castration of young pigs two and a half cents each.

Obstetrical operations in the mare, one dollar and fifty cents; in the cow seventy-five cents; in the sow fifteen to twenty-five cents. Yours, etc.,

District Veterinarians.

Dieckerhoff proceeds to chastise the writer, who is already an elderly man, and one holding no mean position in the employ of the Government. He says under extenuating circumstances the fault might be pardonable in a young man.—*Berlin Weekly.*

EXTRACTS FROM ENGLISH PAPERS.

SALIVATION CAUSED BY A PIN.

By R. J. Bushnell, M.R.C.V.S.

On the 21st of November last a young mare was brought to my yard showing profuse salivation at the mouth, but no other symptoms. On examination I found a large swelling on the off cheek, extending from the commissure to the molar teeth, tender to the touch, very hard and produced by a severe bit. I thought this was the cause of the salivation, but on questioning the man in attendance I was informed that as he was taking some hay out of her mouth in the morning he noticed that it was smeared with blood, and I then made a further examination of the teeth and mouth. Opposite and to the inside of the third molar tooth (off side) I felt a sharp object, as if a piece of tooth were protruding through the gums. I was able to move this with the finger and thumb, and after a little trouble extracted what proved to be an ordinary pin—an inch long—to the great surprise of a few spectators. The pin had evidently got there with the fodder, and the head had been broken off.

Moral.—Always examine the mouth thoroughly in case of salivation.—*Veterinary Record.*

TRAUMATIC VENOUS THROMBOSIS.—DEATH.

By Wm. Alston Edgar, F.R.C.V.S., Dartford.

Subject, black mare pony, thirteen hands, five years in May, 1892. January 9th, 1893, called to see pony reported to have a swelling in throat and neck, and at 10 A.M. found pony in loose box on peat moss, with nose close to ground, and she could not be easily induced to move. A long, diffused swelling extended from the submaxillary region all down channel of neck on each side, but most intense on right; at lower part of neck on right side a patch of emphysema was present. The nostrils and lips were a little swollen, and also in the parotid region there was some œdema; mucous membrane of nostrils normal; heart rate 82, with a hissing sound after each ventricular contraction; temperature 102.2°; respiration slightly quickened. Pony had taken a few oats about an hour before.

History.—The railing around the box was about eight feet high, boarded, with open iron work at top for eighteen inches. The pony was in the habit of standing up on hind legs to look over top at horse in next box. A leather head-stall was buckled by the head strap to the top iron rail, and in jumping up the pony put her right fore leg through the nose piece and hung herself in that position, and was cut free by a boy who happened to be in the stable. The struggles were evidently severe, as a board was broken away from the side of the box. This happened on the afternoon of the 6th of January. On the morning of 7th the coachman noticed a swelling the size of a cricket ball on the right jugular vein opposite the fourth or fifth cervical. In the evening the swelling had become flattened, and five or six inches in diameter. He now fomented the injured part and rubbed in a stimulating embrocation. The pony continued to feed as usual all through the 8th, but the swelling gradually increased but did not alarm the owner or attendant until the morning of the 9th, when it presented the appearances indicated.

Diagnosis.—Thrombosis of jugular veins at thoracic ex-

tremity, or of extreme anterior portion of anterior vena cava.

Continued fomentations to neck and chest, and gentle hand-rubbing from above downward. Seen again at 4.30 P.M., the œdema was less intense in facial, maxillary and laryngeal, but much increased in pectoral and axillary regions. The area of emphysema on the right side had greatly extended. The pony had eaten a small bran mash during an interval for lowering the head, which was suspended to avoid the œdema becoming intense in region of larynx. She received amyl nitrite inhalations every three hours, but the effusion became more intense during the night, extending to the knees and over the whole area traversed by the external thoracic veins, especially on right ribs.

Death occurred at 9 A.M. on 10th, and *post-mortem* was made at 3 P.M. The connective tissue in the whole of affected area was engorged with very dark blood, the effusion being about three inches thick, excepting in the area of the blocked veins, the connective tissue was normal. The thorax was opened laterally and the external aspect of heart and pericardium was normal, the vena cava was soft, and the coats not discolored. Outside the first rib the thrombosis evidently commenced, and extended upward, this part being coal black, and so dense that it was impossible to discern the vessels or where the rupture had taken place, but it was evidently between the point indicated by the external injury and the first rib. Mucous membrane of mouth, etc., pale. The endocardium in left ventricle was abnormaily thick, and there was a small lymph-deposit on the bicuspid valves. No ecchymoses present, nor in the right ventricle, where the tricuspid valves were in a similar condition to the bicuspid; there was an extravasation about three-quarters of an inch in diameter on the outside of right auricle. Mucous membrane of trachea pale; hypostatic congestion of left lung. Blood from axillary and jugular veins, spleen and pectoral connective tissue examined microscopically—contained no micro-organisms. The cause of death was evidently venous hemorrhage in the subcutaneous connective tissue. I have seen death similarly caused in a few hours from an injury to the left carotid artery.—*Ibid.*

DIARRHŒA IN COLTS DUE TO THE "STRONGYLUS ARMATUS."

By WILLIAM STOTHERT, M.R.C.V.S., Blackburn.

On November 19th, 1892, I was called to the stud farm of R——— S———, Esq., I found there several colts the subjects of diarrhœa, one in particular, the chief cause of my services being requisitioned. This, big, a bony, two-year-old gelding, presented the following symptoms: Very poor condition, rough staring coat, profuse fœtid diarrhœa, capricious appetite, insatiable thirst. The pulse, temperature, respirations and mucous membranes were almost normal. Learned that the loss of flesh and purging had been noticed two or three weeks, also that a yearling colt had died and been buried the day previous to my visit, having presented similar symptoms, with the addition of an abscess on the withers.

I examined the food and pastures but failed to detect the irritant in operation, nevertheless I had the diet repeatedly changed, and the colts, which were fit to run out, moved to better drained pasture.

The symptoms varied very slightly, the pulse never counting more than sixty to a minute, and the temperature never over 102.2° F., the animal always seeming bright and ever on the alert for liquids, the purging continuing most persistently. Once, about the third day of my attendance and after the administration of ol. terebinth, slight colicky pains were evinced, which disappeared after a couple of hours, and were not again manifested up to the time of the colt's death on the 15th inst.

Medicines and food were tried without beneficial results, diarrhœa, emaciation and loss of appetite becoming perceptibly worse daily, carried the patient off from sheer starvation. In the absence of any recognizable disease, I notified the owner my impression the cause of the persistent diarrhœa and its consequences was probably the presence in the walls of the intestines of parasites, and I thought if such were the case the strongylus armatus would be the species.

Autopsy revealed besides the appearances of emaciation, a highly congested condition of almost the whole of the

cœcum and colon, the contents of which were of a muddy brown color and semi-fluid. The intestinal lymphatic glands particularly were much congested. Thinking I had a case of muco-enteritis I made little labor over the post-mortem, but secured a piece of about five square inches from the blind end of the cæcum for verification and more minute examination at leisure, in hopes of arriving at a definite *causus operandi.*

From this I have obtained over two hundred nematode worms, some of which I forwarded to the New Veterinary College where Professor Williams recognizes them as specimens of the "strongylus armatus." Almost every blood vessel in this piece of bowel contained one or more parasites, but the majority of them I found in the mucous and sub-mucous tissues. The former presented a slate brown color, studded with numerous black spots, and quite a network of numerous perforations, evidently illustrative of the abode of the parasites.

Since the above post-mortem I have had doses of ol. terebinth administered night and morning, along with ferri per chlor. to several suspected colts, and on examination of the fæces of one of them found quite a number of the parasites, mostly in the adult stage.

The owner has suffered great loss for several years from abortion in cattle; in fact, so serious were the ravages of the disease last winter that he entirely sold out his dairy stock. Isn't there a likelihood of this sanguinary nematode having made the walls of the uterus its habitat, and there been the chief cause in operation?—*Ibid.*

CASES OF AZOTURIA.

By E. H. Curbishley, M.R.C.V.S.

Case I.—Brown mare five years old, and worked in a greengrocer's cart. This mare showed no signs of illness after the morning's work; was taken out after a short rest at dinner time and got about three miles from home when she suddenly fell down, scattering the greengrocers stock-in-trade all around her. She broke out into a profuse sweat and fought

very hard, but being quite unable to rise was dragged to a loose box on a gate.

The owner asked me to attend at once, and on my arrival I found the muscles of the loins and hind quarters quite hard, and all the symptoms of well-marked azoturia. I at once passed the catheter, which allowed the escape of a large quantity of coffee-colored urine, gave a purgative ball, packed the mare up, and left her with instructions to the attendant to give a dose of medicine (sps. ether. nit.) every three or four hours. I passed a catheter night and morning for the next few days, and at the same time prescribed ether. nit.; this was all the treatment the mare got. On the third day she could raise herself a little, and on the fourth could stand for an hour or so at a time; after this she improved rapidly, and was ready for work in about fourteen days.

I allowed no food except bran mashes and hay until she was fit for outdoor exercise.

CASE II.—Bay mare seven years old, the property of a butcher. Symptoms similar to first, except that though she became very weak behind she did not loose power to stand. Adopted same treatment as before, and the mare was ready for work in about a week.

CASE III.—Dun mare, aged, and in foal; after going about one and one-half miles from home the owner thought the bit hurt, and made his coachman get down to examine it, but finding her begin to sweat and blow and drag her hind legs, they turned for home, and with difficulty arrived there. I happened to call to see another horse just as the mare got in, and gave similar treatment as in case I.

This mare made a good recovery, and was not worked again, due to being in foal; was turned to grass, and is expected to foal early this spring.

Believing (as set forth in Principal Williams' book on Veterinary Medicine) that azoturia is a dietetic disease, I made careful inquiry as to the feeding and general management, and found:

CASE I.—At hard regular work, and getting beside a small allowance of corn a bundle of green clover two or three times a day.

CASE II.—At hard work, and receiving same quality and amount of corn as for several years.

CASE III.—Not working much, and not getting much corn, but on morning in question got a large feed of corn on account of the journey she was expected to make.

I should like to ask if the feeding was *quite* sufficient to cause the disease, and whether it is anything more than a coincidence that all the cases were in *mares*, also whether there is any reason why they should be more susceptible than horses. Neither of the first or second cases were at the period of œstrum.—*Ibid.*

LARYNGEAL AND TRACHEAL STENOSIS, AS THE RESULT OF OSSIFYING CHONDRITIS, IN A MARE.

By PRINCIPAL THOMAS WALLEY.

This is a case of a mare which had been for a period of two years under the personal supervision of a veterinarian, and which when seen first was apparently in good health and excellent condition. She had no cough, nor did she roar except when trotted fast, and that increased until suffocation was threatened. She was tracheotomized, and worked well for a period of twelve months, when the lumen of the trachea became so small that she had to be operated again at a point lower down. She continued to work well, and retained her condition up to a short time before her death.

The autopsy revealed almost complete stenosis of the larynx brought about by ossification and thickening of its cartilages, and at the seat of the operations of tracheotomy the adjunct cartilages were found greatly hypertrophied and in advanced stage of ossification. Two large indurated granulations had formed in the mucous membrane around the tracheal apertures, and in the case of the lower one the skin had crept over the edges of the wound to such an extent as to infringe upon the interior of the trachea itself.—*Jour. of Comp. Pathol.*

UTERINE FIBROID WITH EVERSION OF THE UTERUS.

By J. Hughes.

The author was called to a cow which, it was said, was straining persistently and heavily. At his arrival he found the uterus completely everted, with the placenta still attached to it. On removing this, an enormous tumor was found attached to it and growing from the uterine wall, a little distance from the cervix, and, as it size precluded the possibility of successful reduction of the uterus, it was decided to excise it. This was done, after chloroforming the animal, by amputation with an ordinary scalpel, and antiseptic solution applied to the uterus, which was then returned. The after-treatment was simple, and the animal made a good recovery. The tumor weighed sixteen pounds, macroscopically and microscopically showed the characters of a fibroma. Strange to say its presence did not interfere with the birth of the fœtus.—*Ibid.*

SUCCESSFUL TREATMENT OF AN OPEN JOINT.

By Joseph Abson, F.R C.V.S.

The subject was a three-year-old filly, which, having run away, had been secured after upsetting and breaking the wagon to which she was attached. She was taken home apparently well. The next day she was a little lame on the off hind leg; she had a small wound on the hock; the joint was open; there was a well-made round hole on the inner aspect, well to the front of the joint, nearly to the bottom of the capsula; the articular cartilage of the astragalus was plainly visible; but little synovia appeared to have escaped. Prognosis, unfavorable; perfect rest, and dusting of iodoform on the wound three times a day were recommended.

On the following day but very little worse. As she is ticklish from the accident slings are dispensed with, and same treatment of rest, and iodoform directed, the mare being kept tied up. After three weeks the opening had gradually closed, the discharge ceased, and the lameness subsided. A couple of good blisters completed the treatment, to remove a slight bony deposit which had remained.—*Ibid.*

ACTINOMYCOSIS BOVIS SUCCESSFULLY TREATED.

By G. W. Gibbins, M.R.C.V.S.

These are cases in which the pot. iodid. treatment has again given good results. The first is that of a bullock which had been purchased for the purpose of being fattened. He has of late lost flesh; ceased to lick its coat; has constant dribbling of saliva from the mouth; masticates and swallows with pain and difficulty. The tongue is found the seat of disease; the posterior part of it particularly is affected.

A blister is applied on the throat, and pot. iodid. three drachms are given once a day before food. Improvement is manifest after a week. The treatment was kept for nine days, and then changed to alternate days until six more doses were given. Recovery was then complete.

The second was a colt. He presented about the same symptoms and an enlargement on the parotid region. The same treatment was followed and proved even more successful, as but twelve doses of the medicine were necessary before a cure was effected.—*Ibid.*

EXTRACTS FROM ITALIAN JOURNALS.

CEREBRAL ECHINOCCOSIS IN ANIMALS.

By Dr. F. Boschetti.

The first case observed by the author was in a cow. This animal had calved a month previously, and since that time had continued to be dull while in the barn, carrying her head down, and pushing against the wall. Her pulse, respiration and temperature remained normal, but her movements gave evidence of serious disturbances of the economy; when made to walk, if turned shortly from the right to the left she stumbled over whatever obstacles she might meet, and kept on her feet with difficulty. On the contrary, if turned in the same manner from left to right, she avoided those obstacles perfectly well. On the left side, the frontal region was evidently warmer than on the right, and when percussed on this side there was a dull sound heard. The left eye was smaller

than the right, and was retracted in the orbit, while the pupil was widely dilated. The animal was destroyed.

Examination of the eyes was indicated, as it was evident from the manifestations presented that their condition was the result of a tumor or a parasite in the neighborhood of the encephalon. Dr. Arena had already, in a case of cerebral echinoccosis in a man, found an abundant exudate around the pupil of each eye. Bouchat, in animals suffering with cenurosis, had found the neuro-retinitis characterized by a marked œdema of the optic nerve and of the retina, with an exudate concealing the papilla of the nerve, or one of its sides. Similar observations have also been made by Ercolani and Reynal.

In this cow, the ophthalmoscopic examination of the left eye showed a hemorrhage of the retina near the papilla of the nerve, and there was atropy of the optic nerve of the right. At the post-mortem, the cranian walls corresponding to the left hemisphere were hollowed and thinned out, the meninges stretched and nearly transparent, the circulation seemed to be cut off, and the touch gave evidence of fluctuation. On opening the left hemisphere, the lateral ventricle showed a kind of cyst as large as a billiard ball, which under the microscope proved to be an echinococcus.

A similar case was observed in a terrier dog. The animal had shown symptoms of various ailments; for example, for several months previously he had great difficulty in lowering his head, and was in the habit of wandering about indefinitely, seeming by the movements of his head to indicate that he was suffering from some violent pain in that region. These symptoms, by degrees, increased in intensity until drinking and eating became impossible, and the dog was destroyed, and five echinococci were found in the right lateral ventricle. The same conditions were present in a Danish dog, in which before the post-mortem there seemed no reason to suspect the existence of such a lesion. Yet in this case the echinococcus occupied more than half of the left hemisphere. There was such a destruction of the nervous substance that the walls of the cyst were in contact with the bony walls of the cranium.

The last case was that of a donkey, which had died in consequence of an experimental inoculation of tetanus. This animal was old and in poor condition, and was affected with immobility, besides which he presented the peculiarity of constantly pushing with the left side of the body, as if about to fall on that side. The cranial walls were removed, and the brain exposed. On the left, upon the frontal lobe, the dura mater was strongly stretched and so much thinned that it showed underneath a large pouch covered by the pia-mater, and as soon as the dura-mater was opened a cyst as large as an egg escaped from the left lateral ventricle, while within this there was another of the same size. The left ventricle was largely distended, and the cerebral substance at the anterior part of the frontal lobe was entirely destroyed. The cyst was an echinococcus in which germinal and hydatid membranes were well presented.

The post-mortem examination of the right eye failed to reveal anything abnormal, but the left showed, besides the atrophy of the crystalline lens and the diminution in the quantity of the vitreous humor, a hemorrhage of the central artery of the retina.

The conclusions are:

1st. Cerebral echinococcosis is observed in animals as well as in human patients.

2d. That the examination of the eye has shown serious lesions of the retina and of the optic nerve.

3d. That the functional disturbances due to the presence of a cerebral echinococcus may vary considerably.—*Il Moderno Zooiatio.*

SUBCUTANEOUS CAUTERIZATION.

By M. Rabbaglietti.

The horse which was subjected to this treatment had for some time been lame, and had received blistering applications on the shoulder, but without any favorable result. The actual cautery was then decided upon, and, the animal being thrown, some twenty cutaneous incisions were made in four parallel lines, measuring about three centimeters (one inch and a half) in length. These incisions were quite deep, and partly included the muscles underneath. The cautery was then twice

reintroduced. In two weeks after the operation the animal resumed his work, free from lameness.—*Giornale di Vet. Med.*

VERMINOUS ANEURISM IN THE HORSE.

By The Same.

After jumping over an obstacle, the animal dropped dead, and as the jump had been perfect and without touching any object, and nothing appearing that could explain such a sudden complication, the post-mortem was ordered. The abdominal cavity contained a large quantity of blood mixed with food. The mucous membrane of the stomach, as well as that of the intestines, was much thickened, and at the point where the great mesenteric passes near the middle portion of the cæcum there was a ruptured aneurism as large as an egg. Its walls were very thin, and it contained some fibrinous clots in which some sclerostomus armatus were discovered. These were also found in varying numbers in the colic arteries, and the liver and spleen seemed to be atrophied. The other organs were healthy.—*Ibid.*

INTRA-VENOUS INJECTION OF SPIRITS OF TURPENTINE.

By M. Bertolotti.

This subject was a horse three years old affected with all the characteristic symptoms of anasarea. The hind legs were the seat of an œdema, which rendered locomotion difficult, and the effusion had began to throw itself at the sternum. The conjunctival and pituitary membranes were covered with petechia. Respiration was accelerated, the pulse hard, and the temperature 41° C. Dullness was manifest on percussion of the right lung. Spirits of turpentine was administered internally; dry friction made on swollen parts. In the evening, the swelling of the legs appeared to be diminished, but the head then became affected, and the temperature rose. The next morning all the symptoms were more marked, and as suffocation was threatened, tracheotomy was performed, and five grammes of spirits of turpentine were injected into the left jugular vein. During the first twenty minutes following, the animal seemed anxious and showed some abdominal pains, which, however, were only transient. In the evening, instead

of finding the patient dead, a result of which the symptoms quite justified the expectation, the œdema of the head and legs had become reduced, and the temperature had fallen to 40° F. A second injection was then made into the left jugular. The next day the facial œdema had disappeared, the respiration was easier, and the temperature was reduced to 39° C. A third injection was then made, this time in the right jugular, and tonics were prescribed. The improvement continued, and was followed by recovery. Two other cases out of four in the hands of the author, recovered under the same treatment.—*Ibid.*

TINCTURE OF IODINE AND WOUNDS OF THE FOOT.

By M. Baruchello.

A mare had picked up a nail, which caused a deep punctured wound in the median zone of the foot. The ordinary treatment was applied—thinning of the sole and antiseptic washes, yet suppuration appeared and became very abundant, and the author having decided to try tincture of iodine the wound was thoroughly cleansed, and the tincture introduced well and deeply into the fistulous tract, and a dressing applied. Three days later the mare had completely recovered. From this experiment the author concludes that tincture of iodine is very efficacious, it being understood that the traumatism does not extend to the tendons or to the joint, nor to the navicular bone.—*Ibid.*

VOMITING IN PREGNANT BITCHES.

By M. A. Marini.

A small, pregnant bitch had for some time suffered with recurrent vomiting, and opiates, antispasmodics and cocaine had been tried, but vainly and without result. The author then thought of rectal injections of bromide of potash, and administered on the first day two grammes of the bromide; on the second, four; and on the third, eight, and with this the vomiting stopped entirely. She was afterwards delivered of two healthy pups.—*Clinica Veter.*

COLLEGE COMMENCEMENTS.

CHICAGO VETERINARY COLLEGE.

A large concourse of the friends of the Chicago Veterinary College assembled at the Grand Opera House on Friday, the 24th of March, to participate in the tenth annual Commencement, at which eighty-one students received the right to practice. A very interesting programme was prepared for the occasion, which elicited plaudits of approbation from the audience. Following the President's address and a selection by the Imperial Quartette, the degree of Doctor of Comparative Medicine (M.D.C.) was conferred upon the graduates, which, at a unanimous request of the senior class and majority of graduates, the trustees and faculty decided to adopt instead of Doctor of Veterinary Science (D.V.S.), thinking it more appropriate. The President of the Illinois Humane Society, John G. Shortall, Esq., delivered an excellent address upon the humanity that should guide and direct the action of those having the care and treatment of animals during sickness. Dr. Albert Babb, the valedictorian, delivered an erudite address on the comparative anatomy of the animal kingdom, and bid farewell to the faculty in terms that indicated the feeling of respect in which the class held their teachers, and was followed by Dr. Champlin, with a scholarly subject pregnant with ideas and a fitting adieu for the occasion. Three prizes, consisting of twenty-five dollars' worth of books each, were given to the following graduates: A. Babb, for highest average in anatomy, W. G. Clark, for highest average in theory and practice, and W. A. Bruette, for highest average in materia medica. The highest general standing, ninety-five, was that of Dr. A. Babb.

The following is the graduating class:

Adamson, J. H.	Chicago, Ill.
Anderman, F. W.	Chicago, Ill.
Armstrong, G. E.	Sanborn, Ia.
Babb, A., B. A.	Springfield, Ill.
Barrett, D.	Cascade, Ia.

Baxter, C. E.	Griswold, Ia.
Bennett, G. M.	Chicago, Ill.
Binger, S.	Monroe, Wis.
Bovett, J. A.	Chicago, Ill.
Bruette, W. A.	Chicago, Ill.
Casper, A. M.	Milwaukee, Wis.
Casserly, W. H.	St. Paul, Minn.
Clark, W. G.	Johnson, Wis.
Cobb, G. H. Jr.	Housatonic, Mass.
Cole, W. H.	Kewanee, Ill.
Crane, C. M.	Waukesha, Wis.
Davis, F. H.	Ensworth, Wis.
Deenis, C. G.	LaSalle, Ill.
Downs, N. H.	Geneva, O.
Draper, O. G.	Macon, Mo.
Durack, J. D.	Mineral, Ill.
Eaton, R. D.	Minneapolis, Minn.
Eckley, M. C.	Duncan, Ill.
Eddy, J. H.	Stockton, Cal.
Everton, C. O.	Monroe City, Ill.
Faulkner, G. F.	Monterey, Cal.
Fay, G. H.	Oakfield, Wis.
Goodale, O.	Toulon, Ill.
Gould, J. N.	Fairmont, Minn.
Gould, J. W.	Fairmont, Minn.
Gwinn, W. T.	Newman, Ill.
Gysel, R.	So. Chicago, Ill.
Hagadone, G. L.	Chicago, Ill.
Herzer, E.	Milwaukee, Wis.
Higgins, R. A.	Milwaukee, Wis.
Hill, Geo. C.	Milwaukee, Wis.
Hill, M. N.	Minnesota, Lake, Minn.
Ilstrup, F. A.	Buffalo, Minn.
Kaylor, J. M.	Baylis, Ill.
Kermath, D.	Chicago, Ill.
Ketchum, F. D.	Marseilles, Ill.
Koehne, Chas.	Paynesville, Wis.
Lamont, F. G.	Esmond, Ill.

Leith, F. J. . . . . Chicago, Ill.
Longnecker, A. O. . . . Atlanta, Ill.
McAllister, J. H. . . . . Lee, Mass.
McDonald, J. T. . . Shelbyville, Ill.
McGraw, E. F. . . . Ft. Scott, Kas.
McKenna, C. S. . . . Mt. Morris, N. Y.
McNair, F. S. . . . Elburn, Ill.
McNay, G. P. . . . . Humiston, Ia.
Merrick, C. H. . . . Okawville, Ill.
Metzger, A. E. . . . . Clyde, O.
Morgenroth, E. L. . . Boltonville, Wis.
Mullett, J. H. F. . Williamston, Mich.
Newbury, M. C. . . . Hanover, Mich.
Newton, E. H. . . Poynette, Wis.
Oberst, J. J. . . . Belgium, Wis.
Presler, H. A. . . . . Montpelier, O.
Rich, R. G. . . . . Fayette, Ia.
Richmond, F. O. . . . Sabetha, Kas.
Rimmer, F. . . . . Chicago, Ill.
Rimmer, T. . . . . Chicago, Ill.
Rork, A. M. . . . . Merrill, Wis.
Rushworth, W. A. . . Monte Vista, Colo.
Sawyer, F. N. . . . . Galt, Cal.
Schoedde, B. . . . Milwaukee, Wis.
Scott, J. A. . . . Minneapolis, Minn.
Sheppard, J. N. . . Edinburg, N. D.
Stanley, O. W. . . . Sioux Falls, S. D.
Sutzin, J. . . . Minneapolis, Minn.
Thornborrow, J. A. . . Jacksonville, Ill.
Troxell, R. E. . . . . Chicago, Ill.
Ulm, F. J. . . . . Chicago, Ill.
Van Aken, R. D. . . Columbus, Wis.
Waterman, G. A. . . . Salem, Mich.
Wheeler, E. G. . . . . Pella, Ia.
White, S. J. . . . E. St. Louis, Ill.
Wiesen, W. J. . . . Chicago, Ill.
Wright, F. O. . . . Smithport, Pa.
Ziegenhorn, A. F. . . Claytonville, Ill.

OHIO VETERINARY COLLEGE.

The second annual Commencement exercises of the Ohio Veterinary College were held in the college hall, on the evening of April 5th. Prof. A. H. King, in his address to the gathering, dwelt on the progress of the college, which has been so great since its organization, two years ago, that the present quarters on Sycamore street have been found inadequate, and the probabilities are that it will be moved to the old home of the Cincinnati College of Medicine and Surgery.

The valedictory address was delivered by Prof. Frederick Kebler. O. H. Everly won the Mead-Fox medal, offered for the best general examination.

The graduating class numbered twenty students as follows:

James, T. H.	Maysville, Ky.
Curtis, H. L.	Little Hocking, O.
Smiser, H. A.	Cynthiana, Ky.
Galbraith, G. R.	Manhattan, Ill.
Bethune, J. G.	North Pine Grove, Pa.
Geary, C. K.	St. Thomas, Ont.
McCann, A. A.	River Dissert, Que.
Cantelow, S. H.	Brantford, Ont.
Miller, Alvin.	Chillicothe, O.
Spitler, J. L.	Dayton, O.
Everly, O. W.	Holmesville, O.
Nesbitt, J. G.	Ottawa, Ont.
Dixon, C. Price.	Cumberland Gap, Tenn.
Haffman, L. R.	Centerville, Ky.
Boehme, Herman.	New Port, Ky.
Marshall, H.	Cumberland Gap, Tenn.
Ruth, C. V.	Torch, O.
Ware, J. T.	Paris, Ky.
Freshour, J. W.	Covington, O.
Willerton, Tom.	Lynville, Ill.

DETROIT COLLEGE OF MEDICINE—VETERINARY DEPARTMENT.

At the last Commencement of this institution, the following gentlemen graduated in veterinary medicine and surgery:

Messrs, J. A. Attridge, S. F. Barnes, J. B. Caughey, F. H. Ellis, Orton V. Sanford, J. A. Yoder, F. C. Wells, C. E. Anderson, N. F. Dunn.—(*Medical Age*).

CORRESPONDENCE.

"A NEW CATTLE DISEASE"—OR CONVULSIVE ERGOTISM.

An article has this month appeared in the *Veterinary Journal* of London, England, copied from your issue of March, headed a "New Cattle Disease," by Mr. T. J. Turner, D.V.S., State Veterinarian, Columbus, Mo.

There is an old adage, perhaps not infallible, that "there is nothing new under the sun." Will it not be well to be quite certain that in this case we have not an "old disease" not recognized.

The writer describes the gradual development of the symptoms, nervous derangement and convulsions; good state of the appetite and digestion; some of the animals, perhaps, affected with diarrhœa, and death in convulsions—the nature of its distribution in different herds. The post-mortem appearances revealing nothing remarkable, but a close examination showing an atrophy of the nervous structures.

The symptoms, the nature of its distribution and the post-mortem appearances, which are all well and minutely described, point so markedly to "convulsive ergotism" that before accepting the idea of a "new disease," the possibility of the food, or any portion of it, containing any of the ergotted grasses or grains, must be satisfactorily established. It is well to remember that ergot attacks many varieties of grasses and grains, and that the ergotted seed of many of the grasses may be so small as to be microscopic; that hay may be well saved and appear wholesome and sweet, but a close examination may reveal quantities of ergot, or ergot may probably be found on the grasses in the pasture.

C. H. SWEETAPPLE, V.S.,
Lecturer on Cattle Pathology Ontario Veterinary College.

VETERINARIAN WANTED.

Gentlemen: ANSONIA, CONN., May 10, 1893.

Our veterinary surgeon just died. He was a young man, graduate of Ontario, I think; had a good practice. We are a city of ten thousand people, stirring, busy.

Do not some of your young men wish to come here and locate? We think it a good opening. S. W. SMITH.

KILL OR CURE.

BALTIMORE, MD., May 12, 1893.

Editor American Veterinary Review:

I enclose a recipe that came into my hands through a druggist friend that is a corker, and may be of use to those who are looking for a general utility liniment that will cure spavins, ringbones, big head, etc.

If it does not consume too much space in the REVIEW, it will probably edify some practitioners:

Corrosive sublimate, one-eighth ounce; tarter emetic, one-half ounce; green euphorbion (?), one half ounce; cantharides, one-eighth ounce; oil of spike, two ounces; verdigris, one-fourth ounce; oil of wormwood, one-half ounce; croton oil, one-half ounce; oil of turpentine, two ounces; mercurial ointment, three-fourths ounce; tincture iodine, one-half ounce; laudanum, one ounce; crude oil, four ounces; water ammonia, two ounces; tincture capsicum, one ounce; sulphuric acid, one ounce.

(Druggist's advice) Mix and add the acid slow.

S. Use a feather or brush.

Very truly yours,

W. H. MARTENET.

BIBLIOGRAPHY.

VETERINARY MEDICINES—THEIR ACTION AND THEIR USES. BY FINLAY DUN. Eighth Edition, Sabiston & Murray.

What more can be said, than has already been said, of a book which has been for years not only the classical book for students, but the standard work of reference for practitioners? That this edition has been revised and so considerably enlarged as to bring it quite up to the dimensions of modern therapeutics, is well evidenced by the arrangement of the new volume, and by a recapitulation of the names of the authors to whom acknowledgments are made, and which includes many of an authorative rank among the English, French, and German authors who have contributed to veterinary

literature. "Dun's Veterinary Medicines" will, for years to come. continue to be the authority *par excellence* of its kind in the English language.

MATERIA MEDICA AND THERAPEUTICS. By J. V. Shoemaker, A.M., M.D. Second Edition, F. A. Davis & Co., Detroit.

Although "Dun's Veterinary Medicines" is about the only good work in its own domain which veterinarians can consult, study or learn from, yet of course the subject of Materia Medica and Therapeutics, as pertaining to humane medicine, is more extensively treated and covers more ground, and a larger number of writers have given it their attention and striven to throw new light on its topics.

"Materia Medica and Therapeutics," by Dr. J. V. Shoemaker, is among the last attempts in this direction, and in the two volumes which he has devoted to the subject he has done well, and rendered it full justice. Veterinarians who devote a portion of their time and study to the aquisition of a knowledge of human therapeutics as well as to those of their own specialty, will never miss the time or regret the trouble it may cost them.

NOUVEAU DICTIONNAIRE PRATIQUE DE MEDECINE CHIRURGIE AND HYGIENE VETERINAIRES. (New Practical Dictionary of Veterinary Medicine, Surgery and Hygiene). Vol. 21. By Sanson, Trasbot & Nocard. (Atselin & Hougeau).

This volume contains articles on: Thyroid, cribbing, tetanus, tonics, thrombus and embolics, trichinosis, tuberculosis, tendons, their diseases and their surgery; coughs, etc., etc. They are contributed by a company of choice collectors, amongst whom are found the names of Cadeac, Cadiot, Kaufman, Neumann, Nocard, Peuch, Sanson, Trasbot and Dr. Labat. What more could be said?

OTHER BOOKS RECEIVED.

Precis de Teratology. By L. Guinard.

Tuberculosis of Bones and Joints. By H. Senn, M.D.

Precis de Pathologie Veterinaire. By E. Leclainche.

Internal Parasites of the Horse. By J. F. Duncan, V.S.

Cholera, its Protean Aspects and Management. By Dr. G. A. Stockwell, F. Z. S.

SOCIETY MEETINGS.

SOCIETY OF VETERINARY GRADUATES OF WISCONSIN.

The second annual meeting of the Society of Veterinary Graduates, incorporated under the new Charter Laws of Wisconsin, was held at Madison, Feb. 8th, at 1:30 P. M. Vice-President E. D. Roberts in chair.

Roll call showed the following present: Drs. J. F. Roub, C. A. Woodford, E. D. Roberts, Jno. F. Unerth, W. A. Waite, Chas. Schmitt, C. H. Ormond, H. Arpke, Wm. F. Williams, W. R. Claussen, J. R. Kelso, J. P. Laws and the Secretary.

Guests, Drs. D. C. Gillies and David Culdham. Minutes of the last meeting read and approved.

The Secretary's and Treasurer's reports were then read, and Treasurer's report showed a balance on hand. Reports accepted. The correspondence laid on the table from the last meeting respecting the members becoming members of the United States Veterinary Society was brought up and all were requested to join the United States Society at its next meeting in Chicago in September. Moved by Williams, seconded by Waite, to endorse and adopt the resolution passed by the United States Society, making a three years' course necessary for membership in the Society of Veterinary Graduates of Wisconsin, after '93. Two new names were reported for membership, namely, Duncan C. Gillies, Neenah, and David Culdham, Stoughton.

Report of Censors favorable and the applicants accepted and elected to membership. The Committee on Legislation, namely, Drs. Ormond, Woodford and Laws, reported a bill drawn up to present to the Legislature at this session to regulate the practice of veterinary medicine and surgery in the State. Moved by Claussen, seconded by Unerth, to accept the bill as presented. Carried.

The election of officers was the next order of business and resulted as follows: President, Dr. E. D. Roberts, Janesville; Vice-President, J. P. Laws, Madison; Secretary, G. Ed.

Leech, Milwaukee; Treasurer, C. H. Ormond, Milwaukee. Censors: Drs. J. F. Roub, Monroe; J. R. Kelso, Baraboo; and W. R. Claussen, Wapaca.

Adjourned to meet at 7:30 P. M.

Meeting called to order by President Roberts. Dr. C. A. Woodford then read a good and interesting paper, subject, "Parturient Apoplexy;" discussed by Drs. Roub, Laws, Claussen, Williams and Kelso.

After a lengthy discussion it was moved by Laws, seconded by Waite, to excuse the essayist. Carried.

Dr. Unerth then read a paper on the subject of "Cornstalk Disease," which was discussed by Claussen, Williams, Schmitt and Roub; essayist excused. Dr. J. R. Kelso then followed with a paper on the subject of "Sunstroke, Heatstroke or Anhydraemia." This paper was thoroughly discussed by Drs. Roub, Woodford, Ormond, Arpke and Williams. On motion the essayist was excused, and Dr. Claussen followed with a paper, the subject being the disease which is the bane of every veterinarian's life, namely, "Azoturia," and was thoroughly discussed by all present, after which general discussion the essayist was excused.

The essayists for the next meeting were, Williams, Roub, Ormond and Laws. After the usual vote of thanks to the essayists, the meeting adjourned to meet in Milwaukee, August 30th, 1893.

LATER.—The bill introduced in the Legislature was indefinitely postponed by the Senate.

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The ninth annual meeting of this Association was held at the State Street House, Trenton, N. J., on April 13th, 1893. The meeting was called to order by the President, Dr. J. C. Dustan.

After the roll call the Secretary read the minutes of the last meeting, which were accepted.

The President then read an interesting address, where he took opportunity to dwell upon the good work done by the

Association, which he attributed to the harmonious and friendly feeling that existed among the members of the Association. He dwelt lengthily on the importance of the services rendered by the veterinarians, especially to those that may be required of him in the presence of the prevailing and rapid increase of tuberculosis among cows in New Jersey. He closed his remarks by expressing his regret as to the action of some associations, who were ignoring the self-made veterinarians and refusing them membership, wisely alluding to the fact that many of those were already working in behalf of the profession years previous to the establishment of veterinary colleges in this country.

The address was warmly received and followed by the report of the Secretary and of the Treasurer, both of which were received and placed in the minutes.

On account of the absence of several members of the Board of Censors, the President completed the board, but no election of new members could take place, the candidates not having complied with the requirements.

The Legislative Committee reported progress, as well as the Registration Committee and the Judiciary Committee.

The essayist having failed to be present, the order of business was the election of officers, which resulted as follows: Dr. J. Gerth, Jr., President; L. P. Hurley, First Vice-President; V. L. Drummond, Second Vice-President; S. L. Lockwood, Secretary; B. F. King, Treasurer.

After the appointment of various committees and transactions of miscellaneous business, the Association adjourned.

NOTICE.

A NEW VETERINARY DEGREE.

To the Graduates of the Chicago Veterinary College:

Notice is hereby given that the degree given by the Chicago Veterinary College has been changed from Doctor of Veterinary Science (D.V.S.), to Doctor of Comparative Medicine (M.D.C.)

This change has been made at the unanimous request of the classes of '92 and '93, and eighty-five per cent. of the grad-

uates. The main reasons for the change are that M.D.C. is more appropriate, comprehensive, elevating and less liable to be assumed by empirical practitioners than V.S., or any other combination of initials relating to the title.

Former graduates can avail themselves of the change by returning to the Secretary their old diplomas accompanied by five dollars, the cost of the new ones.

Excepting the change in degree the new diplomas will be as far as practicable fac similes of the old.

JOS. HUGHES, *Secretary.*

OBITUARY.

Dr. J. F. Boothby, graduate of the Ontario Veterinary College, died on the 20th of March, of intestinal disease, at Ironwood, Michigan, where he had succeeded in establishing a good and lucrative practice.

SUNDRIES.

INFORMATION REGARDING GLYCOZONE;—ANSWER TO ONE OF OUR READERS.—Glycozone is a staple compound from the chemical reaction which takes place when C. P. glycerine is submitted, under special conditions, to the action of fifteen times its own volume of ozone, under normal atmospheric pressure at a temperature of O° C.

The presence of water and other foreign substances in the glycerine changes the nature of this reaction, so that instead of producing glycozone, we obtain formic acid, glyceric acid, and other secondary products having deleterious effects upon the animal cells.

Glycozone being hydroscopic must be tightly corked, so as to avoid being deteriorated by the moisture contained in the atmosphere.

Although glycozone absorbs water readily, it does not deteriorate when kept at a temperature of 110 degrees F. as long as it retains its proper anhydrous condition.

The therapeutic properties of glycozone and Marchand's peroxide of hydrogen (medicinal) differ in the following particulars.

Peroxide of hydrogen (medicinal) instantly destroys the morbid elements of diseased surfaces of the skin or of the mucous membrane with which it comes in contact, leaving the tissues beneath in a healthy condition.

On the contrary, glycozone acts more slowly, but not less certain as a stimulant to healthy granulations. Its healing action upon a diseased mucous membrane is powerful and harmless in the treatment of inflammatory diseases of the stomach. In such cases it gives an immediate relief to the patient.

In chronic inflammation of the intestines, a rectal injection administed every day with a mixture composed of

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Glycozone, ʒ 1
Lukewarm water, ʒ 12

soon relieves obstinate conditions.

A syringe made exclusively of hard rubber or glass should be used in all instances where either peroxide of hydrogen (medicinal) or glycozone is used as an enema.

After any diseased or suppurating surface has been cleansed by peroxide of hydrogen (medicinal), the application of glycozone stimulates healthy action, and accelerates a cure.

GENERAL DIRECTIONS FOR USE.—Glycozone may be given for diseases of the stomach, in doses of one to two teaspoonfuls in a wine-glassful of water immediately after each meal. In catarrhal diseases, it should be applied in full strength as often as required.

As an application to wounds and suppurating surfaces it should be used without dilution.

CAUTION.—Glycozone is a peculiar chemical compound, and not a mixture of peroxide of hydrogen (medicinal) with glycerine.

These two liquids when mixed do not form a stable product,

but develop substances which have injurious effects upon animal cells.

Such a mixture when freshly made has no healing properties similar to glycozone. On the contrary glycozone is stable, harmless and always effective.

SANITARY NEWS.—From the *Public Health* of Minnesota, Dr. C. N. Hewitt the editor gives the following statistics for glanders in the State during the months of November and December, 1892.

NOVEMBER, 1892.—Remaining on hand Nov. 1st, 38; killed during the month 3; reported during the month 7; released during the month 0; remaining isolated Dec. 1st, 42.

DECEMBER, 1892.—Remaining on hand Dec. 1st, 42; killed during the month 3; reported during the month 4; released during the month 0; remaining isolated Jan. 1. 1893, 11.

Most of them "suspects" under observation.

COMPARATIVE ACTION OF ANTIPYRINE, PHENACETINE AND PHENOCOLL.—From a series of experiments on dogs, Drs. Herna and Carter have reached the following conclusions: 1. Antipyrine, phenacetine and phenocoll, all fail to produce any effect on the heat functions of the normal animal. 2. Antipyrine produces a decided fall of temperature in the first hour after its administration in the fevered animal. This reduction is due to a great decrease in heat production. 3. Phenacetine, both in septic and albumose fevers, produces a very slight fall of temperature during the first and second hours after its ingestion by the stomach, but the greatest reduction occurs the third hour after its ingestion. The fall of temperature results chiefly from the heat dissipation. The increase in dissipation is not as great as with antipyrine. Probably the delayed action of the drug depends on its insolubility. 4. Phenocoll causes in fever a very decided fall in temperature, which occurs the first hour after the administration of the drug by the stomach. This reduction is the result of an enormous diminution of heat production, without any alteration of heat dissipation. Their experiments

with antipyrine are in accord with the results obtained by Martin. Wood, Reichert and Hare, together with Destree, have reached the conclusion that antipyrine reduces the temperature by a decrease in heat production, and that heat dissipation also falls with the production. In their experiments with antipyrine the composite curve shows the rise of heat dissipation. The authors believe, therefore, that this phenomenon is effected through a thermotaxic rather than through a thermogenic mechanism. They further believe that phenacetine and phenocoll reduce the temperature by a decrease in the heat production through their action on a thermogenic nervous center. The fact that all drugs here studied fail to produce any effect on the normal heat function, proves that they affect these functions through the nervous system. Probably the fact pointed out by Hare, that many investigators do not take into account other circumstances, such as tying animals down, and confinement in a box, may explain many of the results obtained by some observers in the normal animal.—*Medical Record.*